Instant Messaging: Wireless IM Market Forecast and Analysis, 2000–2004

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Table of Contents

List of Tables

Abstract

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This report examines the potential of wireless instant messaging (IM) by looking at the market drivers and inhibitors. It then profiles the companies that are involved in the wireless IM arena.

In March 2000, IDC conducted focus groups with teens, college students, and adult consumers. This report examines each of these segments' interest in wireless IM. The final section of the report has a forecast of subscribers and potential revenue from the service.

Executive Summary

IM using a wireless phone or pager is on the rise. In 1999, there were very few users, but by 2004 there will be 43 million wireless IM users. Consumers are already guessing that they will be limited to sending instant messages to subscribers of the same carrier; interoperability is going to be key in wireless IM success. Already this issue has become a factor in wireline Internet IM, but ironically, battles between Microsoft and America Online (AOL), although unsolved, have not hurt IM but instead have led to an increased awareness of IM. There are a number of other market barriers, such as difficult text entry, privacy, battery life, and market awareness.

Today, technology exists that recognizes the presence of wireless phone users and makes entering text on a handset easier. Now, it is just a matter of how the carriers will work with each other and online IM players, such as AOL, Microsoft, and others, so users can send instant messages independent of service providers. In some cases, it may not be carriers at all that provide subscribers with wireless IM capabilities. Instead, a portal could set up a special wireless Web page that wireless Internet users could access from a wireless application protocol (WAP) or HTML phone. From that page, end users could instant message that portal's other IM subscribers. In this case, end users' presence will likely be determined when they log into the wireless Web page and not only when their handsets are turned on.

Methodology and Definitions

Wireless IM is sending a message instantaneously to someone who is known to be available. To be wireless, at least one of the users is required to send and receive the instant message on a wireless device, such as a pager, cellular/PCS, or specialized mobile radio (SMR) handset. In a way, sending an instant message to a wireless device is similar to sending an instant email or short message, except there is no email address associated with IM, and generally, it is expected to be sent without the delays that can occur with short message service (SMS). Two-way SMS is also different in that user availability is unknown.

The second key aspect of IM is presence determination and the buddy list. Knowledge of IM users' presence or availability is required for a sent message to be considered an instant message.

Two-way SMS is not required for a wireless phone user to have IM capabilities. For example, the instant message may be sent to the handset over SMS, but the user may respond using a wireless Internet connection on a WAP or browser phone.

To forecast the number of IM subscribers, IDC assumed a percentage of wireless subscribers that can have access to IM applications based on the percentage of wireless subscribers that also use IM on a PC. To forecast revenue generated, IDC assumed a monthly fee that will be associated with IM and calculated the annual revenue based on the number of subscribers. This revenue does not reflect advertising revenue or money made from sources other than subscribers.

Barriers to Market Success

Difficult Text Entry

One of the most important aspects to the proliferation of wireless IM is easing the input of text. Currently, to enter text on a handset requires users to push one button multiple times to type a letter. For example, to enter the word "hello," a user has to push 44(H), 33(E), 555(L), a button for NEXT, 555(L), and 666(O). That is a total of 14 button punches for a five-letter word. Although practicing this text entry can produce some faster writers, a better way must be available for the text solution to take off.

A couple of options are available to help end users enter text quickly. One that will likely be used is canned responses. Carriers can provide generic canned responses to each of the end users' handsets. In addition, carriers can give their customers access to a personal Web site where they can set up specific responses to be used from their handsets. When the end users receive an instant message, they can then choose either one of the generic or their own personalized canned responses. The problem with this kind of solution is that it assumes that conversations using wireless IM will not be similar to IM conversations on a PC. Instead, canned responses can limit the kind of things that can be sent because entering text beyond the canned messages means that the end users have to go back to the traditional way of entering text. When users limit what can be entered as a message, they limit the application's versatility and usefulness.

One of the best options available today for entering text on a handset is Tegic's T9 technology. To enter words using a nine-digit key pad, users only have to push each button once. The T9 software shows the most likely word from the buttons pushed by deciding which letters are most likely to go together, meaning that if end users want to enter the word "hello," they only need to push 4-3-5-5-6. The software figures out the word and shows "hello." If users were to push those buttons without the T9 technology in the handset, it would show the "word" "GEKM."

Educating the Market

Later in this report, IDC examines end-user interest specifically. Overall, carriers still have a fair amount of work ahead of them if they want to expand the viability of wireless IM. In consumer focus groups, end users had a hard time coming up with situations when text would be more appropriate than talking on the phone. Even after wireless IM was demonstrated, they had a hard time thinking of practical uses of the application and were concerned about pricing.

The general lack of marketing has been one of the major reasons for relatively little use of SMS in the United States compared with Europe. Of course, the other limiting factor is the fact that most SMSs in the United States today are one-way. With two-way capabilities, the solution will immediately be more appealing and

widely used. Because the solution is, for the majority, one-way, many applications are not valuable for carriers to offer. In addition, carriers do not charge customers for receiving short messages. They would not generate much additional revenue and therefore, would not benefit from widely marketing the application.

With wireless IM, IDC expects this story to change. Instead, the capabilities for two-way communications and the ability to detect presence can be valuable information from which carriers can generate huge revenue. This revenue will likely not come from end users who are interested in saving airtime by using a text-based service. Instead, it will come from other companies that want to advertise using the presence detection information (maybe also tied with location information). However, because carriers have an opportunity to generate revenue and provide a valuable service, they will likely put forth more effort in marketing wireless IM than they did historically with SMS.

Presence Detection

Presence detection is one of the major points in the definition of wireless IM. IDC believes that knowing someone's handset is turned on or is available to receive IM is valuable to carriers, advertisers, and other wireless users. It is expected that the majority of wireless IM users will be the same wireless users who send instant messages online. Therefore, they will expect wireless IM to be similar to IM from their PCs; hence, they will expect to see and set up a buddy list.

A carrier can determine when a handset on its network is turned on by accessing the home location register (HLR). This database is used for completing calls and creating call detail records that are used in billing. When a handset is turned on, it must communicate with the HLR (or visitor location register [VLR] if it is roaming) in order to place and receive calls. The HLR can be queried to develop buddy lists and presence detection. Software exists today to develop a buddy list from this HLR information, and more competition is expected to develop in this arena.

There are two types of presence detection: automatic and manual. With an automatic detection system, any handset that was turned on and accessible by the network would automatically be registered. Manual detection systems require end users to actually do something to register their presence. For example, end users could turn on their phones, but in order to be detected as available, they would have to enter a sequence of digits on their keypads. Obviously, the manual detection system is much more privacy oriented; however, carriers that want to have their customers available for IM most of the time would prefer an automatic system. Instead, IDC believes the carriers will offer something between the two in which handsets are detectable unless the user entered a sequence of digits to remove his presence detection.

Different kinds of presence detection will exist in the realm of wireless IM. The carrier will likely offer detection of other wireless subscribers whose phones are turned on in the network, while a

portal may offer presence detection of its own IM subscribers who are online either on a PC or wireless device. Wireless users will only appear as being available if they use the handset to access the Internet wirelessly. It will depend on which IM solution end users use. The winner in the end will offer presence detection of not only its subscribers on its own network but also of PC users and wireless users on other networks. In addition, the winner will provide presence detection based on the handset being turned on, not in an Internet session, and will offer some sort of privacy solution to presence detection.

Privacy

One of the concerns brought up by end users in the consumer focus groups was privacy. If the user's handset is detected as available by another user, then of course other users will know when the handset is on or off. In addition, if carriers sell the presence information to other companies that want to advertise to their customers, then privacy becomes a major issue.

End users showed concerns about having their friends, parents, or business associates feel ignored when messages or phone calls are not answered, but they were satisfied with having the option to block their presence detection.

Battery Life

Overall, wireless handset battery life was of no concern to either the college or high school focus groups, but after a demonstration of wireless IM, they brought up questions about using battery power to send and receive messages. It is still an important issue and needs to be addressed. Carriers knowing that end users think their battery life will degrade if they use wireless IM or have presence detection on may be enough to solve the problem. Reassuring end users may be all it takes to solve this issue. However, this again goes back to the market education issue. If carriers want end users to use wireless IM and keep their presence detection turned on, carriers will have to calm end-user fears.

Penetration of Devices

Wireless IM requires a two-way pager, digital handset capable of two-way SMS (and a network that supports two-way SMS), or an Internet-capable handset. Therefore, in order for wireless IM to gain popularity, capable devices must penetrate the marketplace. Penetration of two-way pagers will increase in the next five years; approximately 3 million of the activated pagers in 2004 will be two-way.

Two-way SMS will also come of age in the next five years. By 2004, there will be approximately 35 million subscribers with access to two-way SMS. In addition, handsets with Internet access will continue to penetrate the market in the next five years. Of course, all of this growth will take some time, and although it is booming, it is starting off quite small.

Interoperability

As a growing number of free IM services become available on the Internet, and as wireless carriers deploy IM capabilities, interoperability is sure to be an issue. Having a buddy list that can access availability information across AOL, MSN, Netscape, Lotus, Qualcomm Eudora, and Apple IM users, in addition to wireless IM subscribers using wireless carriers, will be key to making IM a success among wireless users.

In the wireline world, there has been an ongoing battle between software giant Microsoft, which supports MSN Messenger, and AOL, which has the largest base of IM users through its acquisition of ICQ and its agreements with portals, such as Yahoo! and Lycos, that use the AOL IM platform. When Microsoft announced that its IM application would be interoperable with AOL, AOL did not want to cooperate. Microsoft asked AOL users for their usernames and passwords to communicate with the AOL servers and connect to other AOL Instant Message customers. AOL in turn adjusted its server code to block access. This cycle continued until Microsoft could no longer guarantee interoperability between its IM application and AOL's. These public battles have shed a considerable amount of attention on IM applications and increased awareness of IM's existence, especially among the consumer segment.

Because wireless IM has not really been born yet, it is hard to say exactly what the interoperability issues will be. However, there is no question that some issues will be seen as being similar to those in wireline IM. One of these issues will be in presence detection among carriers because each carrier has access to its own HLR to determine users' availability, but they cannot determine the presence of other carriers' subscribers. Other interoperability issues will include getting presence information from and enabling communication among the major online portals that offer IM.

Reasons exist for both sides of the coin when it comes to deciding whether or not to work out interoperability issues between carriers. Carriers will want to offer universal IM because it will increase the viability of their wireless IM offerings. Carriers will likely not charge for IM but will make money from companies that want access to their customers' presence information. Thus, carriers must ensure that the vast majority of their customers are open to giving out their presence information. One way to increase the likelihood of that is to offer IM across the board to IM users that are using other wireless carriers and portals. This way, customers will have larger buddy lists, likely be on more buddy lists, and want to keep their handsets' presence information available.

However, carriers can also argue the other way, only wanting to offer IM between their own customers in order to increase loyalty. In IDC's opinion, limiting IM to just one carrier's subscribers will not likely be highly valuable to end users and will not greatly increase loyalty. It would be much more valuable to the carriers to cooperate and offer universal IM.

Management

The final thing blocking the growth of wireless IM is a management issue. Carriers must not only manage delivering messages but also must work out how they are going to manage all those buddy lists. Other issues that must be managed are interoperability, presence detection, and personalized canned message databases. A lot of jobs need to be done in the world of wireless IM.

Companies Involved in IM

Wireless IM will likely not be uniform across the industry. There will be many breeds of wireless IM. IDC believes that the carriers will offer their own, company-branded IM solution. In addition, portals will set up wireless Web sites that can be accessed by a wireless Internet subscriber. From these specially designed sites, end users will be able to instant message other portal IM subscribers.

Presence determination will be one of the differentiating factors of all the different wireless IM solutions that will evolve. For example, wireless carriers will offer presence determination based on when the handset is turned on and will offer access to its other subscribers in the beginning and not to other portals' or carriers' IM subscribers. The portals will likely offer presence determination when the subscriber is on the specific wireless Internet site and will offer access to its PC IM subscribers as well as its other wireless IM subscribers.

The winner in the wireless IM space will be the one that manages to offer an interoperable solution, which will determine presence based on the phone being turned on and offer access to not only its own wireless IM subscribers but to other carriers' and other portals' IM subscribers. Obviously, the carrier is in a good position to do just that.

A variety of companies have recently demonstrated wireless IM or introduced technologies that will likely help drive wireless IM popularity.

Ericsson

Ericsson's iPULSE messaging product enables IM for PC users. Users can set up their preferences for receiving messages, such as when, by whom, and how they want to be reached. iPULSE users can choose among text messaging, voice call, instant message, pager message, or SMS. With the SMS option, the message is sent to a wireless handset that is SMS capable, enabling IM to wireless handsets. Of course, users cannot respond to instant messages unless they have two-way communications. Therefore, this solution does not fit under IDC's wireless IM definition.

Yahoo!

Yahoo! has started offering its Instant Messenger service in Europe using any wireless markup language (WML) handset independent of carriers. Users must go to the **www.yahoo.com** IM site, and from there they can send and receive instant messages between Yahoo! IM users. In the United States, IDC expects Yahoo! to offer the same kind of service on its wireless portal sites, such as with Sprint PCS and AT&T Wireless. This implies that carriers will not have control over who their subscribers are instant messaging. Theoretically, AT&T Wireless subscribers could instant message Sprint PCS subscribers if they are both Yahoo! Instant Messenger users. In this

case, the carriers would not be able to charge for the service either. Yahoo! would likely provide the service at no charge to increase its brand awareness and drive its IM subscriber base. This sort of scenario does not look promising to carriers that might think they will get a piece of the IM pie. Instead, they will only generate revenue from the actual access (if they charge a fee for the service).

Software.com (@mobile) and Tribal Voice

@mobile was acquired by Software.com in April for $400 in Software.com stock. In February, @mobile.com and Tribal Voice planned to combine Tribal Voice's IM platforms with @mobile.com's wireless phone detection technology (which was awarded a patent in December 1999) to offer wireless IM and online presence detection. Wireless carriers can license and cobrand the application. Because the service can be cobranded, wireless carriers' brands can extend to PCs. Software.com's presence detection servers lie next to the HLR to obtain presence information, which is then passed through the wireless network via SMS or the IP network.

TeleCommunication Systems

TeleCommunication Systems Inc. (TCS) introduced its IM application called MO Chat in February. This application enables wireless phone users to chat among other phone and Internet users. The Internet Chat Enabler Technology (ICET) provides awareness and availability information for buddy list members.

Tegic/America Online

Tegic was purchased by AOL in December 1999. The technology Tegic developed, called T9, enables users to enter text on a numeric keypad with one stroke per letter; an internal database identifies the correct word. Currently, T9 technology is available in a variety of handsets in the United States from manufacturers including Nokia, Motorola, Mitsubishi, Neopoint, Samsung, and Denso. Tegic's Text Input technology is a great enabler in bringing IM to wireless phones because it will ease the creation of messages using a phone keypad, which is a critical success factor in bringing IM to the mobile market. The IM service offered by AOL using Tegic's technology will also appeal to carriers because users will have access to their AOL buddy lists. Carriers will not charge customers for using IM, and they expect an increase in user loyalty.

Invertix

In March, Invertix commercially deployed its IM-Anywhere Software, which detects the availability of wireless users for IM. It also enables wireless IM users to see if the people on their buddy lists have their phones turned on or if they are online at their computers. The software resides between the IM servers and the wireless networks and can query a carrier's HLR to get presence information.

Lucent

Lucent demonstrated wireless IM at CTIA using a WAP browser and Lucent's Wireless Data Gateway. This gateway can disclose when a mobile phone is turned on, disclose where it is located, and reveal subscriber features and billing information to authorized Internet queries. The gateway also enables the user to be notified of other members in the buddy list who are logged onto the Internet either from a wireless device or a PC, and group members are notified of the user's availability.

InfoSpace

Starting in November 1999, person-to-person IM to wireless devices was available from InfoSpace, enabling its carrier partners, including AT&T, Sprint, and BellSouth, to offer wireless IM to their subscribers. The solution is server based; therefore, the devices do not need special software making the solution device-independent. The service was available starting in November on RIM Interactive pagers, Palm and Windows CE PDAs, smart phones, Qualcomm's Thin Phone, the Mitsubishi T250, and all SMS-capable phones.

Infospace integrated MSN's Instant Messenger with its IM service. It will enable InfoSpace and MSN IM users to send and receive instant messages to one-way, two-way, and browser-enabled mobile devices. While using a browser-enabled handset, users can send and receive messages in addition to access group lists and see who is available for receiving instant messages. By integrating the service with MSN Instant Messenger, users can use a wide variety of Internet services.

End-User Interest

In March, IDC conducted focus groups with teenage, college, and adult consumers. Some time was spent demonstrating and discussing wireless IM. As a baseline, IDC asked participants if they currently used IM on their computers. Answers varied from participants who used it all the time to some who didn't know what it was. After getting an idea of who used IM on their computers, IDC introduced the idea of wireless IM by demonstrating the service for the groups using two wireless phones. Their general reactions were again probed. In addition, the groups were asked what would make wireless IM better.

High School Students

Teens who use IM on their computers said that they use it mainly when are already online. However, some logged on just for IM.

"If I call my friend and it's busy, then I'll send her an instant message telling her to call me when she's done," said one focus group participant.

When we introduced the idea of IM on a wireless phone, the first impression of one teen group member was, "Na, that would be stupid."

However, the entire second teen group said it would use the service. After the demo, most of the teens asked, "Why not just call? Does it save me minutes?"

They see IM as a way to save money but also concluded, "It would just initiate a call anyway. If someone called to ask where's the party, you'd call to tell them where, not type it in."

As they discussed it more, they realized that there might be situations where typing in text might make more sense than talking, such as while at the movies or in class.

To improve wireless IM, some participants agreed that it would be better to "talk into it instead of typing messages." One teen commented, "Typing in the messages would take forever."

In addition to concerns about the amount of time spent typing messages, the groups had concerns about being restricted to IM between subscribers of the same carrier. They definitely wanted IM to be carrier independent.

In summary, IM is not something that teens would want to pay extra for. They would initially use it to save minutes, and as they used it they might find more and more situations where text on a phone instead of voice made sense.

College Students

When interviewing the college students, it was determined that fewer of them used IM compared with the high school groups; however, generally they were more interested in wireless IM than the high school students. Again, the college students would not expect to pay for the service but would expect to save minutes by using it. When it came to improving wireless IM, they too came up with the same idea as the high school groups: speech to text conversion so that users can simply say what they want to be read.

Adult Consumers

Internet IM usage among the adult consumers was much lower than the college and high school student groups; however, their interest in wireless IM was higher than both groups. They could easily picture situations in their lives where such an application would be useful.

One of the participants was a teacher and acknowledged, "It would be a great way to receive a message while working with a child."

Most of the adults could not see themselves carrying on long chat sessions over a wireless phone. They only saw it as a substitute for quick calls, and they expected to save airtime by IM instead. Of course, not all the adults wanted the service.

"I think it's a neat feature, but not for me," some said.

Market Forecast and Analysis

A wireless IM subscriber must have either a two-way pager or a WAP capable phone (which by the end of 2000 is not a limiting factor). However, this is not the only thing necessary to do wireless IM. The wireless carrier must support the capability. Carriers will deploy solutions because it will be a differentiating factor at first. It may also increase the carriers' minutes of use, thereby indirectly affecting service revenue. In addition, an IM solution will hopefully reduce churn.

The majority of the market is consumer based. Because IM can reach a large number of users at one time, it can also be a useful application in the enterprise when time-sensitive information is of the essence. The key advantage of IM over email or other communications is that a user can detect whether a person is online or available to receive a message. Since this factor is now integrating into detecting wireless devices, which are commonplace among both consumers and enterprises, wireless IM will surely take off.

Subscriber Forecast

Table 1 shows the number of IM subscribers from 2000 to 2004 split by the kind of network they use. In 1999, there were only a few IM subscribers, but by 2004, over 43 million IM users will exist, representing a 2000–2004 CAGR of 203% (see Table 1).

Table 1
U.S Wireless Instant Messaging Subscribers by Type of Network, 2000–2004 (000)

	2000	2001	2002	2003	2004	2000–2004 CAGR (%)
Two-way SMS	149	902	3,009	6,098	10,780	191.5
Packet	9	215	687	1,540	2,767	323.6
Two-way paging	–	14	40	80	135	NA
MDN	1	5	10	16	24	100.1
SMS with two-way Internet	355	2,160	7,500	15,575	29,705	202.4
Total	515	3,296	11,246	23,308	43,411	203.0

Key Assumptions:

- Some overlap exists between SMS subscribers with two-way Internet capabilities and two-way SMS users.
- One-way SMS subscribers that also have two-way Internet capabilities can also instant message.
- No wireless carriers offered wireless IM in 1999, but some will launch services before the end of 2000.
- According to survey data, approximately 6–7% of wireless users had online service and use IM or buddy lists in 1999.
- Packet data users will not be as likely to use wireless IM as two-way SMS or paging users.
- MDN subscribers will be more likely to use wireless IM compared with two-way paging subscribers.

Messages in the Data:

- In 2004, over 43 million wireless IM subscribers will exist.
- Cellular/PCS subscribers will account for just over 30% of wireless IM subscribers.

Source: IDC, 2000

Although the two-way paging and cellular/PCS segments have similar IM penetration, by 2004, the cellular/PCS market will have the highest penetration of IM, with over 30% of cellular/PCS subscribers IM enabled.

Revenue Forecast

IDC believes that it will be difficult for carriers to charge wireless IM subscribers a monthly premium for the service because it is free on the Internet. However, instead of developing capabilities and managing buddy lists in-house, carriers will likely outsource these tasks. Because it will cost wireless carriers some sort of fee to provide their customers with presence detection capabilities, they must generate revenue from IM. The best way to do this is to offer the presence information to companies that can use it to market their services or products. However, as mentioned earlier, in order to make customers want to keep their presence detection on, they must have access to buddy lists.

Table 2 shows the revenue forecast produced by IM split by network from 2000 to 2004. In 2004, annual revenue from IM will be $363 million.

Table 2
U.S. Wireless Instant Messaging Annual Revenue by Type of Network, 2000–2004 ($M)

	2000	2001	2002	2003	2004	2000–2004 CAGR (%)
Two-way SMS	3	23	76	143	201	185.5
Packet	–	1	5	10	14	306.5
Two-way paging	–	–	–	1	2	NA
MDN	–	–	–	–	–	161.2
SMS with two-way Internet	2	16	54	102	146	192.3
Total	5	40	135	256	363	191.9

Key Assumptions:

- Carriers will charge customers for IM when it is first introduced because it is a differentiator.
- Once multiple carriers have IM, they will not charge for the service but will include it in their higher-end service-rate plans.
- Customers on low-end plans will have to pay for IM service.
- Subscribers will have the choice of either receiving the service for free by allowing advertisements to be delivered to their handsets or pay for the service.
- Wireless IM will have the added capability of presence detection, which will be valuable, especially to MDN and business users, and to consumer users.
- SMS with browsing capabilities and two-way SMS IM subscribers will produce similar monthly revenue.

Messages in the Data:

- In 2004, IM will bring carriers an additional $217 million in direct revenue from subscribers.
- This annual revenue forecast does not include any revenue generated by advertisers.

Source: IDC, 2000

Of course, revenue produced directly by end users is only a small portion of revenue that carriers can generate by offering IM. A variety of indirect revenue can also be realized. For example, carriers can work with merchants, both online and brick and mortar, to advertise to subscribers. Presence determination can be very valuable to advertisers because they can determine which subscribers that they send ads to have their handsets turned on.

Customers willing to receive these kinds of ads will receive IM at a reduced charge, but those who do not want advertising will pay an additional monthly fee for the service. The average cost used to calculate revenue from IM are averaged across subscribers that pay additional fees and those who get the service for free.

Key Assumptions

- Two-way SMS is required for IM. In 1999, nearly all GSM carriers offered two-way SMS to their customers. Time division multiple access (TDMA) and code division multiple access (CDMA) carriers will not offer two-way SMS until mid- to late 2000.
- No wireless carriers offered wireless IM in 1999, but some will launch services before the end of 2000.
- According to IDC's *Personal Wireless Communications User Survey,* 2000 (conducted in January), approximately 6–7% of wireless users have online service and use IM or buddy lists on their PCs.
- Packet data users will not be as likely to use wireless IM as two-way SMS or paging users.
- Mobile data network (MDN) subscribers will be more likely to use wireless IM compared with two-way paging subscribers.
- All of the assumptions from IDC's report *U.S. Wireless Services and Devices Market Assessment, 1999–2004* (IDC #22214, May 2000) apply to this forecast.
- All of the assumptions from IDC's report *Wireless Access to the Internet, 1999: Everybody's Doin' It* (IDC #21187, December 1999) apply to this forecast as well.
- Because IM means the recipient must respond, only subscribers that can send and receive information will have capabilities to instant message.
- IM will eventually be universal among wireless and online providers.
- Carriers will charge customers for IM when it is first introduced because it is a differentiator. However, as time passes, it will become a service that is offered for free in order to be competitive.
- Once multiple carriers offer IM, they will not charge for the service but will include it in their higher-end service-rate plans.

Customers on low-end plans will still have to pay for IM service. These paying customers will more often be two-way SMS rather than packet subscribers.

- Two-way paging average cost of service for IM will decrease faster than that with MDN service because demand among MDN users, who tend to be enterprise customers, will remain high. The key to IM in MDN over two-way email is the presence detection, which will be valuable to MDN and business users, especially, as well as to consumer users.

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